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ABSTRACT

The difficulty in understanding adolescent behavior often causes adults to react in unhealthy ways, leading to the deterioration of adult-child relationships. The purpose of this study was to determine the feasibility of scaling constructs which adolescents use in their daily coping; constructs which can be understood, administered, and interpreted by parents and educators. These constructs were: (1) personality type, (2) intellect, (3) education, (4) character, (5) sophistication, and (6) rate of maturity. These components work independently as well as interact with each other. Presentations, training, and follow-up interviews were used to determine the usefulness of the construct model, as well as the "LASA" instrument devised in order to examine the components of adolescent behavior. Adults were found to be eager for help in understanding their student or child. The model as presented gave them insights into understanding, while the instrument gave them a tool to begin to apply that understanding in a specific adolescent's life. The "LASA" instrument appears to be useful as an heuristic test, that is, one that promotes discussion between adults and adolescents on the behavior of both. Contains 19 references and 21 tables of data and statistical analysis. (TS)

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IDENTIFYING ADOLESCENT STRATEGIES

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Introduction

Adults, whether parents or teachers, find it increasingly difficult to cope with the behaviors of adolescents. At best, this behavior is difficult to understand; so it is not surprising that in many instances in dealing with adolescents, adults react in unhealthy ways. Adult frustration and failure lead to the deterioration of adult-child relationships.

Although a large body of research literature exists on adolescent development, little of this theoretical knowledge is available to parents and teachers in an applicable format. This need for practical knowledge is accompanied by the unavailability of an acceptable assessment device which can accurately identify behavioral tendencies of adolescents in a useful way. There are, however, many instruments used by specialists, counselors, and psychologists which profile dysfunctional or pathological adolescent behavior. Clearly however, much of the behavior of adolescents, however, which frustrates teachers and parents on a daily basis falls within normal developmental boundaries. Teachers and parents need to have access to an assessment device that is theoretically and psychometrically sound yet simple in it's administration and interpretation, and which leads to practical strategies for working with adolescents.

Purpose of Research

The purpose of this study was to determine the feasibility of scaling constructs which adolescents use in their daily coping; constructs which can be understood, administered, and interpreted by parents and educators These constructs were based on the Long's six dimensional model (1975) of adolescent temperaments.

Significance and Background

Adolescent Behavior Theory

Adolescent behavior must be seen in the context of a lifelong process of development. Psychologists see one's entire lifetime as a process of development or chain of events (Baltes, Reese & Lipsitt, 1980). Adolescence is simply one stage of that development. A large part of which is confusing because adolescent behavior is complex and transitory. There are however, various models suggested in the research for understanding components of adolescent behavior. Based upon this research, a seven component model was presented for consideration as the basis for understanding adolescent behavior.

The Long Model of Adolescent Behavior

Long (1975) offers a six component model of adolescence as presented in Table 1. Long's model contains: 1) personality type, 2) intellect, 3) education, 4) character, 5) sophistication, and 6) rate of maturity. These components work independently as well as interact with each other.

Long (1985) defines and clarifies normal adolescent development as the years characterized by "ambivalence, the coexistent state of continuing dependency on parent or another authority and a developing need for independence from that relationship" (p. 87). The unavoidable conflict strongly impacts parent/child relationships and teacher/student relationships (Long, 1989). Within the resulting conflict, adolescents express some combination of six dimensions of a personality type or temperament need.

Long's theory is six dimensional and is defined by two primary and four secondary dimensions. The first two dimensions are continua: aggressive/passive and dependent/independent; the four secondary dimensions index four secondary strategies or traits: compulsive, impulsive, phobic (cautious), and hysteric (dramatic).

The two continua produce four combinations or primary strategies used by adolescents (aggressive-dependent, aggressive-independent, passive-dependent, and passive-independent). The four secondary strategies or coloring traits, significantly impact the manifestation of the primary strategies. An adolescent may exhibit any number of the secondary traits (Long, 1975). Therefore, these six dimensions can produce a total of 64 combinations of primary and secondary strategies which influence the strategies of adolescents.

The Wiens Model of Adolescent Behavior

Table 1 gives the seven components of adolescent behavior as derived from the literature, they are: 1) temperamental needs, 2) cognitive formation, 3) values, 4) emotional stability, 5) physiological constituents, 6) construal factors, and 7) contextual environment. The first component, temperamental needs, is the component primarily addressed by the LASA instrument developed in this study. Berenbaum and Williams (1995) describe this component as the temperamental exigencies within the adolescent.

Cognitive formation represents maturity in areas of formal reasoning, analysis, synthesis, evaluation, and meta-cognitive activities (Bloom, 1956; Erickson, 1963; Piaget & Inhelder, 1969). Values are influenced by education, religious training, the family expectations, and cultural mores adapted to by the adolescent (Long, 1975). Siegel and Shaughnessy (1995) state

that emotional stability encompasses the adolescent's maturity as defined by the manifested self-reliance of this component.

Physiological constituents are those determinants which are rooted in the physiological domain and directly or indirectly influence behavior (Gilberg, 1978). Early in the century, these factors alone were used to define when adolescence began; however, most current definitions of adolescence are more comprehensive and multi-factoral (Maddi, 1980; Manaster, 1989). Manaster studied over 100 definitions of adolescents and found the earliest age of onset was 8, and the latest age for the end of adolescence was approximately 25 (1989). Construal factors are those influences which impact the way adolescents construe their context and interpret the events of their lives. Self-worth, self-efficacy, and self-regulation would be some of these factors (Hoge, Smit, & Crist, 1995). The contextual environment is the atmosphere of reinforcement and modeling experienced by the adolescent directly and indirectly (Pittman, & Bowen, 1995; Bandura, 1986). This component includes many influences, from the role models in the media to the relationships of an adolescent.

Expression of the first six components requires healthy developmental maturation during adolescence. Effective maturation occurs when each component is validated, regulated, and integrated into the whole self of the adolescent. Pathologies result from trauma, addictions, or other inhibiting factors impeding these components from their normal development and integration; explaining why most lifespan theorists define adolescence as a transitional period (Erikson, 1968; Keating, 1990).

A Comparison of Models

Long's six factor model of behavior is similar yet different from Wiens' seven factor model. Personality type is synonymous with temperamental needs. Intellect, according to Long, is more appropriately described as intelligence and differs from cognitive formation. Intellectual endowment can be described as "bright" or "limited", whereas cognitive formation is developmentally based. A developmental definition does not account for the quantification of one's intellectual ability as Long assumes (1975. p. 57). Education for Long has to do with factual knowledge of the world and how this impacts the coping strategies chosen by the youth. If these two components are taken together and allow for maturation, intellect and education can become something similar to cognitive formation in the Wiens' model.

TABLE 1

MODELS OF ADOLESCENT BEHAVIOR

WIENS SEVEN COMPONENTS	LONG SIX FACTORS
1. Temperamental needs	1. Personality Type
2. Cognitive Formation	2. Intellect
3. Values	3. Education
4. Emotional Stability	4. Character
5. Physiological Constituents	5. Sophistication
6. Construal Factors	6. Rate of Maturity
7. Contextual Environment	

Character for Long is very similar to the values of the Wiens' model. For Long, this is the moral structure "learned from parents, in church settings, in school contacts, and through associations with other individuals outside the home" (1975, p. 57). Sophistication is developing refined techniques of dealing with people. Television often will provide such an understanding

through being exposed to the experiences and attitude of the world. This factor is like emotional stability but includes parts of the contextual environment of the Wiens' model (Long, 1975, p. 58). Sophistication for Long is similar to Sternberg's factor of wisdom. For Sternberg wisdom involves the concept of judgment, fairness, sagacity (willingness to consider advice from others as well as interpersonal sensitivity), perceptiveness, and information seeking (Sternberg, 1986).

The rate of maturation is treated as a separate factor by Long, whereas in the Wiens' model, maturation is seen as a process unique to each component. Therefore, each component can mature or develop at a different rate in the Wiens' model.

Instruments of Long's Personality Types

Previous instruments based upon Long's personality types were checklists and categorized adolescents into one of the four primary strategies and any number of the four accompanying secondary traits (Cioffi, 1995). This approach precluded assessment of intensities from one dimension to another; creating a "non scaleablility" of the construct. For example, based on the checklist two people might be classified aggressive-dependent. However, they may differ radically in their intensity of each of these dimensions. One young person may be highly aggressive and mildly dependent while the other may be mildly aggressive and highly dependent. Ignoring the secondary strategies for the moment, these two individuals would have radically different needs and coping strategies. The checklist instrument fails to identify these dimensions so that clinical clarification is necessary. At times parents and teachers are frustrated during administration of the checklist in trying to describe adolescents who do not clearly fit into one of the four categories. In addition, the ability to discriminate intensity of a dimension also allows for adolescents to score at the midpoint of a continuum, allowing for a non-excessive response.

Definition of Terms

Strategy - A temperamental needs profile which is shaped by some combination of the two primary dimensions (aggressive passive and dependent/independent) and some possible combination of the four secondary dimensions (compulsive, impulsive, dramatic, and cautious). This strategy is manifested as an adolescent's responsive pattern of behavior.

Aggressive - A dimension of behavior characterized by actively responding or reacting to the world. This dimension engages with the environment and intentionally interacts with it.

Passive - A dimension of behavior characterized by quietly responding or reacting to the world. This dimension disengages with the environment and acquiesces from interaction with it.

Dependent - A dimension of behavior characterized by seeking approval from sources of authority.

Independent - A dimension of behavior characterized by having no need for approval from outside authority figures.

These two primary continua produce four primary strategies as expressed in adolescent behavior.

Aggressive-Independent - These adolescents are high energy and action oriented. They tend to transform emotional energy into direct language or activity. The independent dimension translates into an adolescent who tends to disregard the importance of approval from authority figures. This causes the young person to act out impulses or emotions with little fear of reprisal or rejection. This produces one who acts quickly without restraint and manifests little inhibition in their attitude. As a result, these students often develop a poor record of conforming to school or parental standards. (Long 1985). The adolescent who uses this strategy may feel, for instance,

that the best way to handle a disagreement is to attack their opponent either verbally or physically (Cioffi, 1995). In class, these students often have trouble paying attention and getting homework done on time. Adults see these students as not living up to their expectations. Because of this, often these adolescents develop poor self-concepts and feel inferior to others. Yet, they do not have difficulty being honest with parents or others when in discussion or arguing their point.

Aggressive-Dependent - These adolescents possess the same amount of energy and need of action as the previous strategy; however, they have a marked need for approval from authority. This need often restrains the impulsive behavior demonstrated by independent adolescents. The adolescent seeks control over aggressiveness through translating energy into constructive and compliant tasks. Often this student is the over-achiever and is viewed as the perfect child. They are competitive and are at the top of most classes or organizations (Long, 1985). These young people tend to be leaders and viewed as gifted in schools (Cioffi, 1995). They excel at whatever they try, are highly idealistic, and have very high expectations for themselves. Parents and teachers appreciate their positive and compliant attitudes in life and reward them accordingly. They will express their views, but within conformity and quickly insure they are not risking rejection through their aggressive actions.

Passive - Independent - Because of a lower level of energy than the previous two strategies, these adolescents often respond through withdrawal, isolation, or inactivity under pressure. Whereas the previous two strategies actively respond to stress and are almost enlivened by it, these youngsters are immobilized by stress. This adolescent appears stubborn and very often frustrates authority figures who are trying to motivate them (Long, 1985). These students may simply not work on assignments until it is too late to adequately complete the assignment.

They often appear bored, dislike homework, and rarely enter into classroom discussions (Cioffi, 1995). Since these responses are not valued by teachers or parents, they are often singled out for disciplinary action or poor performance.

Passive - Dependent - This strategy is also represented as low energy; however, unlike the previous one, this adolescent thrives on affection and approval. Due to their lack of ability to express emotions, these adolescents are often the latest to mature (Long, 1985). They are extremely compliant with authority figures and get along with adults better than with their peers. For this reason, they are unable to break ties with their parents or home. Adults praise these adolescents for their sensitivity to others (Cioffi, 1995). However, most often this is fostered out of a deep fear of rejection. These students may be appreciated by teachers for being quiet, compliant, and cooperative; yet, seldom are they motivated to achieve academic honors or exceed expectations.

These four primary strategies result from the two primary dimensions of Long's personality types. His personality theory also involves secondary dimensions which produce four secondary strategies or traits. The secondary strategies can significantly alter the way the previous four primary strategies are expressed in an adolescent's behavior. These four traits: compulsive, impulsive, phobic (cautious), and hysteric (dramatic) may be present in an adolescent in any combination (Long, 1975).

Compulsive - This strategy was defined by Long as obsessive-compulsive (1989). This strategy is expressed through a very methodical, organized, well thought out behavior. These adolescents possess self-discipline and desire structure in their activities and life (Cioffi, 1995).

They are efficient in their work and are easily frustrated when others they work with are not. In extreme cases, this trait can involve detailed rituals and habits of behavior.

Impulsive - This strategy is most often seen as a lack of forethought and judgment. Often these adolescents are seen as rushing into action or jumping into situations without adequate consideration (Cioffi, 1995). Seldom do these students stick to a task for very long and are seen as irresponsible (Long, 1989). The quality of their work often suffers due to their inability to stay with a project for a long period. These adolescents have emotional outbursts which are usually directed at a specific focus.

Phobic - This strategy is described by Long as cautious (1975; 1985, 1989). These adolescents experience a tendency to develop fears which are narrowly focused and out of proportion with reality. The exact object of fear will be different for each student. They often ask, "what if" something happens or goes wrong? The fears may become extreme and significantly inhibit behavior in a crippling manner.

Hysteric - This strategy is best described by Long as dramatic (1975; 1985; 1989). Often these adolescents are excessive in their emotional response (Cioffi, 1995). Their thoughts are full of fantasies and therefor have great difficulty maintaining a realistic perspective on issues of life. Their dramatic or emotional outbursts can be triggered by almost anything and are therefor hard to understand by adults close to them. At times this strategy may be confused with the impulsive trait. Yet, the emotional outburst of a dramatic person are not focused on a particular event or object like that of an impulsive adolescent. These adolescents tend to be crises prone and sometimes even appear to enjoy not being happy. They tend to be creative and react out of proportion to need of the situation.

These secondary strategies can be additive or inhibitive on the primary traits (Long, 1989). For instance, when the impulsive strategy is combined with an independent strategy, significant problems may develop from the lack of controls within an adolescent need base. In other words, the impulsiveness exacerbates the already existing difficulties of an independent primary strategy. On the other hand, an impulsive strategy may moderate the tendency for approved behavior of the dependent strategy.

In the same way, the compulsive strategy can cause a dependent adolescent to be extremely concerned with being perfect in all areas of life and lead to depression. While, the same compulsive strategy with an independent adolescent would tend to moderate their tendency to be very unpredictable. Another example can be seen in that cautiousness can moderate an independent strategy while almost immobilizing a passive-dependent strategy.

Results

The purpose of this study was to determine the feasibility of scaling these constructs which adolescents use in their daily coping; constructs which can be understood, administered, and interpreted by parents and educators These constructs were based on the Long's six dimensional model of adolescent temperaments.

Each of the three stages (beta, alpha, and final) of the process further refined the instrument and the scalability of the constructs. The final phase of this study then focused on the usefulness of the instrument to parents and educators.

The Beta Instrument

The beta instrument was 75 items involving three versions (three, four, and five point Likert item scales). All three versions were completed by 49 graduate students. Two other

samples: parents and teachers completed the five point Likert instrument on 13 and 22 adolescents respectively along with the Cioffi checklist.

TABLE 2

ALPHA COEFFICIENTS--LIKERT SCALE FOR SECONDARY TRAITS

Strategy	3 point initial scale (7 item)	4 point initial scale (7 item)	5 point initial scale (7 item)	5 point refined scale (4 item)
Phobic	.44 (6 item)	.35 (6 item)	.50 (6 item)	.70
Hysteric	.24	.22	.51	.60 (3 item)
Impulsive	.90	.89	.90	.91
Compulsive	.67	.74	.67	.85
MEAN α	.56	.55	.65	.77

n=49

Table 2 shows the Cronbach's alpha (α) analysis of the secondary scale items indicated the four item, five point likert scale produces the most reliable results. However, the hysteric trait was not internally consistent on any test. The three samples confirmed the selection of the items which optimized the reliability of the test. Multidimensional scaling (MDS) showed that these scales lacked unidimensionality with Stress = .151 and RSQ = .883. Tables 3 and 4 reveal that component analysis confirmed the four factor model of the secondary traits.

As a result of the oblimin transformation, the components are allowed to correlate. Table 4 reveals that the correlations of the factors are small. Tabachnick and Fidell (1989) suggest correlations between factors that exceed ± .30 would require oblique rotation. Table 4 suggests that these factors are nearly orthogonal and therefore relatively independent of each other.

TABLE 3

PRINCIPAL COMPONENT FOR SECONDARY ITEMS OF BETA INSTRUMENT

OBLIMIN TRANSFORMED PATTERN MATRIX*

Item #	Factor 1 (impulsive)	Factor 2 (compulsive)	Factor 3 (phobic)	Factor 4 (hysteric)
67	.89			
55	.88			
57	.82			
51	.82			
60		.92		
50		.87		
54		.77		
72		.48		
73			.84	
49			.76	
69			.54	
65			.53	
52				.74
70				.67
74				.60

*Pattern coefficients < .3 omitted--Components retained correspond to eigenvalues of the correlation matrix > 1.

TABLE 4

CORRELATION MATRIX

	Factor 1	Factor 2	Factor 3	Factor 4
Component 1				
Component 2	-.239			
Component 3	.200	.088		
Component 4	.004	.215	-.068	

Multiple regression explained a large amount of variance of the traits with the Cioffi score in the parents sample in every case but hysteric as seen in Table 5. This is a recurring problem with the hysteric trait.

TABLE 5

MULTIPLE REGRESSION OF BETA SAMPLES ON CIOFFI SCALES

Sample	Teachers		Parents	
	R	R^2	R	R^2
Phobic	.40	.16	.78	.60
Hysteric	.52	.27	.46	.21
Impulsive	.71	.51	.87	.76
Compulsive	.61	.37	.91	.82
n=	22		13	

Using logistic regression as shown in Table 6, the beta instrument yielded results which corresponded closely to the Cioffi classification for a given adolescent. The t-tests on these same four scales indicated that there was a significant difference between the group means on every scale except hysteric. The phobic, impulsive, and compulsive traits performed well in most analytic procedures, while the hysteric trait lacked reliability, predictability and unidimensionality.

TABLE 6

LOGISTIC REGRESSION OF BETA SECONDARY ITEMS ON CIOFFI

	TEACHERS				PARENTS			
Item Scale	% match	χ^2	df	Sig.	% match	χ^2	df	Sig.
Phobic	95.5%	22.0	15	.109	84.6%	10.50	4	.033
Hysteric	81.8%	8.4	3	.039	92.3%	2.38	3	.498
Impulsive	95.2%	19.2	4	.000	*	*	*	*
Compulsive	68.2%	9.3	4	.053	*	*	*	*

* The solution is not unique and the covariance matrix can not be calculated.

The Alpha Instrument

The alpha instrument consisted of 46 items and was administered to 107 graduate students, parents, and teachers. Cronbach alpha was used to reduce the primary strategy scales 15 items to 10 while increasing the reliability of the overall scale.

TABLE 7

RELIABILITY BY SCALE

Strategy	Alpha (15 item)	Alpha (10 item)
Aggressive	.81	.85
Dependent	.67	.75
n= 107		

Table 8 shows the alpha also confirmed a high degree of reliability of impulsive and compulsive traits. Internal consistency was somewhat lower for phobic and hysteric traits. Again logistic regression was used to anchor the alpha scales with the Cioffi instrument.

TABLE 8

RELIABILITY OF SECONDARY TRAITS FOR ALPHA TEST

Strategy	Cronbach's Alpha
Phobic	.58
Hysteric	.46
Impulsive	.85
Compulsive	.87
n=	107

TABLE 9

LOGISTIC REGRESSION OF ALPHA ITEMS ON CIOFFI

Scale Items	Model χ^2	df	Significance Level	Percent Correct
Aggressive/Passive	36.43	10	.000	82.24%
Dependent/Independent	51.39	10	.000	78.50%
Phobic	10.55	4	.032	83.18%
Hysteric	17.69	4	.001	67.29%
Impulsive	80.12	4	.000	83.18%
Compulsive	55.48	4	.000	82.24%

TABLE 10

PRINCIPAL COMPONENT ANALYSIS OF THE ALPHA PRIMARY ITEMS

OBLIMIN TRANSFORMED PATTERN MATRIX

Items	Factor 1 (aggressive)	Factor 2 (dependent)
1	.60229	
3		-.55817
9	.48879	-.56078
11		
15	.73566	
21	.71367	
23	.61387	
25	.77727	
27	.53562	
29		-.56309
2	-.63171	
6		.70893
8	.60636	
10	.67729	
12		.56756
14		.60463
16		.70022
22		.70363
26	.48870	
28	.73688	

*Pattern coefficients < .3 omitted--Components retained correspond to eigenvalues of the correlation matrix > 1.

TABLE 11

COMPONENT CORRELATION

	Factor 1	Factor 2
Component 1		
Component 2	-.087	

Table 9 shows that all of the primary and secondary scales except hysteric, corresponded at a rate of almost 80% or higher, while maintaining a high degree of significance. Using MDS procedures, the primary and secondary scales became much more well defined on this instrument; component analysis moderately confirmed both the two-component model for the primary strategies and clearly affirmed the four-factor model for the secondary traits as can be seen in Tables 10 through 13.

TABLE 12

PRINCIPAL COMPONENT FOR SECONDARY ITEMS OF ALPHA INSTRUMENT

OBLIMIN TRANSFORMED PATTERN MATRIX*

Item #	Component 1 (impulsive)	Component 2 (compulsive)	Component 3 (phobic)	Component 4 (hysteric)
33	.73			
37	.81			
41	.80			
45	.70			
34		.84		
38		.77		
42		.86		
46		.79		
31			.78	
35			.76	
39				-.45
43			.62	
32	.77			
36	.57			.53
40				.61
44				.80

*Pattern coefficients < .3 omitted--Components retained correspond to eigenvalues of the correlation matrix > 1.

TABLE 13

COMPONENT CORRELATION

	Factor 1	Factor 2	Factor 3	Factor 4
Component 1				
Component 2	-.172			
Component 3	.063	-.016		
Component 4	-.081	.199	-.066	

The Final Instrument

The final instrument was comprised of 36 items and was completed on 170 adolescents by teacher, parents, and graduate students. In addition, this version was sent to 26 of Long's previous patients in an attempt to anchor the LASA to his clinical diagnosis. Table 14 shows that for the 170 respondents, alpha was high for every scale except hysteric (.37). The reliability coefficient remained high across every test and every population. This internal consistency was very acceptable in an instrument of this nature.

TABLE 14

RELIABILITY BY INSTRUMENT AND SCALE

Scale	BETA	ALPHA	FINAL
Aggressive	N/A	.81 (15 item)	.85 (10 item)
Dependent	N/A	.67 (15 item)	.73 (10 item)
Phobic	.70	.58	.61
Hysteric	.60	.46	.37
Impulsive	.91	.85	.83
Compulsive	.85	.87	.82
Mean α	.77	.71	.70
n=	49	107	170

The two-component primary strategy and the four-component secondary strategy models were reasonably confirmed through the component analysis as can be seen data presented in Tables 15 through 18.

TABLE 15

PRINCIPAL COMPONENT FOR SECONDARY ITEMS OF FINAL (LASA) INSTRUMENT

OBLIMIN TRANSFORMED PATTERN MATRIX*

Item #	Component 1 (impulsive)	Component 2 (compulsive)	Component 3 (phobic)	Component 4 (hysteric)
23	.66			
27	.78			
31	.77			
35	.67			
24		.76		
28		.74		
32		.82		
36		.78		
21			-.80	
25			-.71	
29			-.48	
33			-.66	
22	.72			
26	.54			.49
30				.63
34				.83

*Pattern coefficients < .3 omitted--Components retained correspond to eigenvalues of the correlation matrix > 1.

TABLE 16

COMPONENT CORRELATION OF FINAL SECONDARY ITEMS

	Component 1	Component 2	Component 3	Component 4
Component 1				
Component 2	-.189			
Component 3	-.108	-.043		
Component 4	-.078	.202	.081	

TABLE 17

PRINCIPAL COMPONENT FOR PRIMARY ITEMS OF THE FINAL INSTRUMENT

OBLIMIN TRANSFORMED PATTERN MATRIX*

Items	Component 1 (aggressive)	Component 2 (dependent)
1	.45	
2	.58	
6	.78	
8	.61	
11		.51
13		.52
15	.62	
16		.68
18	.63	
20	.62	
3		
4		.70
5		.54
7		.60
9		.65
10		.58
12	-.61	
14	-.71	
17		.64
19		.66

*Pattern coefficients < .3 omitted--Components retained correspond to eigenvalues of the correlation matrix > 1.

MDS also affirmed a high level of unidimensionality in the secondary traits and a moderate level in the primary traits. Table 19 indicates the three models generated by the LISREL™ confirmatory factor analysis yielded acceptable fit. The models however, were very complex for aggressive/dependent and hysteric/impulsive but parsimonious for phobic/compulsive.

TABLE 18

COMPONENTS CORRELATION MATRIX OF FINAL PRIMARY ITEMS

	Component 1	Component 2
Component 1		
Component 2	.130	

TABLE 19

GOODNESS OF FIT INDICES FOR ALL MODELS

Model	χ^2	df	χ^2/df	GFI	AGFI	RMR
Aggressive/ Dependent	24.41	16	1.53	.96	.92	.053
Hysteric/ Impulsive	23.40	15	1.56	.97	.92	.046
Phobic/ Compulsive	24.09	16	1.51	.97	.93	.056

Table 20 reveals that logistic regression effectively predicted the Cioffi classification from the large sample while maintaining 95% significance on every scale except hysteric.

With regard to the Long 26 sample, the LASA did not perform well. Table 21 shows that only two of the six scales (aggressive and impulsive) had an acceptable level of significance in the logistic regression model. The LASA, though well anchored to the Cioffi checklist on previous instruments and larger samples did not correlate well with the Long 26 sample.

TABLE 20

LOGISTIC REGRESSION OF LASA ITEMS WITH CIOFFI

Scale Items	Model χ^2	df	Signif.	Percent Correct
Aggressive/Passive	70.62	40	.002	82.79%
Dependent/Independent	51.66	10	.000	77.87%
Phobic	28.64	16	.026	81.15%
Hysteric	24.15	16	.086	72.95%
Impulsive	92.90	16	.000	86.07%
Compulsive	70.07	16	.000	83.61%

TABLE 30

LOGISTIC REGRESSION OF FINAL ITEMS WITH LONG CLASSIFICATION

Scale Items	Model χ^2	df	Signif. Level	Percent Correct
Aggressive/Passive[a]	11.96	6	.063	86.67%
Dependent/Independent[a]	10.13	11	.519	86.67%
Phobic[b]	15.01	4	*	*
Hysteric	1.58	4	.812	53.33%
Impulsive	9.20	4	.056	80.00%
Compulsive[b]	15.01	4	*	*

[a] Due to procedural constraints, all 10 items from scale were not entered

[b] The covariance matrix could not be computed, therefore no data could be generated.

In spite of the lower performance of the LASA on the Long 26 sample, this instrument has shown itself to be reliable, unidimensional, and have a clear component structure for every scale except one: hysteric. As refinements were made, every version of the instrument performed better than previous versions. Repeatedly the LASA has proven validity with the Cioffi checklist.

The Usefulness of the Instrument

Presentations, training and follow-up interviews were used to determine the usefulness of the Long model and the LASA. Adolescent behavior is complex and comprised of at least seven components. Through presentations, the researcher found adults eager for help in understanding their student or child. The model as presented gave them insights into understanding, while the instrument gave them a tool to begin to apply that understanding in a specific adolescent's life. The instrument appears to be useful as an heuristic test, that is, one that promotes discussion between adults and adolescents on the behavior of both.

Follow up interviews indicated that in several instances these concepts enabled teachers to create learning environments better suited for the temperamental needs of the adolescent; parents were able to change their responses to their adolescent's behavior thus fostering greater harmony in relationships. Through this last phase of investigation, the researcher found ample evidence for both the tenuous state of adult-adolescent relationships and the usefulness of the LASA in building healthy bridges in those relationships.

Recommendations

Due to the difficult nature of validating the LASA to Long's classification system, future research is warranted to anchor these two to a normal population of adolescents and adults. Care should be taken to ensure they are assessed within the same time frame and with a population which would represent a normal distribution of temperament profiles.

Also there is a great need for population norms to be developed. One such study was done with gifted adolescents (Cioffi, 1995) and another is under development with young children (primary grades), however extensive sampling is needed by which population norms may be developed for further understanding of distribution of the primary and secondary strategies. Though this is not a clinical instrument, norming this instrument to a clinical population would also be helpful in understanding how pathologies appear in the LASA profiles. As part of this norming process, research is needed to determine how differently respondents complete the LASA when the motivation is simply to contribute to a research data base versus an attempt to procure assistance with an adolescent close to them.

There needs to be research in clearly quantifying and understanding how the perception of the adult is biased by his/her own temperamental needs. This study should seek to identify patterns of how certain profiles respond to others of different profiles.

Many of the children of today have "several strikes against them before they get up to bat." Educators need to ensure that they help adolescents in every way possible to live a life that many of previous generations have enjoyed and they deserve. One small way to make a dent in the unhealthy environment they live in is to give the adults of this world a tool by which they can create healthy contexts that meet the temperamental needs of today's youth.

The LASA itself is not finished. The researcher has found the constructs to be scalable, valid, and reliable, however, further processing is needed to ensure the primary scales are more highly unidimensional and have a clear factor structure.

The hysteric trait simply needs more work. Clearer descriptives and more delineation from the impulsivity are needed. The reliability and predictive nature of this trait is weak. Hysteric (dramatic) behavior is clearly demonstrated in some adolescents, yet it must be distinguished more clearly.

The *Wiens Seven Component Model of Adolescent Behavior* needs further elucidation and development. A clear understanding of the nature, role, and interaction of each component with the other six needs to be advanced. Adolescent behavior is extremely complex and each component of the model needs extreme attention paid to the study and understanding of it. The seven components that influence behavior were confirmed by the literature, and comments and questions raised by parents and teachers of adolescents. A great deal of confusion exists trying to identify behavior based solely upon one component. However, for this instrument (LASA) and the corresponding data analysis, focus has been primarily placed on the temperamental needs component. Research is needed on the other six components and their relationship to the LASA.

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